No. 8700031

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Claeys Semences

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, [illegible]PORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT [illegible] THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT [illegible]42, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

CORN

'Lp5'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 18th *day of* December *in the year of our Lord one thousand nine hundred and* eighty-seven.

Attest:

Kenneth R. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426)

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1 NAME OF APPLICANT(S) — RJS 10/14/87
~~Claeys-Luck~~ CLAEYS SEMENCES

2 TEMPORARY DESIGNATION
Lp5

3 VARIETY NAME — RJS 8/27/87
LP5

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
Griffaton
BP1
49800 Andard, France

5 PHONE *(Include area code)*

FOR OFFICIAL USE ONLY

PVPO NUMBER
8700031

6 GENUS AND SPECIES NAME
Zea mays L.

7. FAMILY NAME *(Botanical)*
Maydeae

FILING
DATE: December 19, 1986
TIME: 2:00 ☐ A.M. ☑ P.M.

8. KIND NAME
corn belt dent

9. DATE OF DETERMINATION
5/5/82

FEES RECEIVED
AMOUNT FOR FILING: $ 1800.00
DATE: December 16, 1986
AMOUNT FOR CERTIFICATE: $ 200.00
DATE: October 14, 1987

10 IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Claeys-Luck = corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Wilson Hybrids, Inc.
P.O. Box 391
Harlan, Iowa 51537
Attn: Dr. Jerry F. Strissel
PHONE *(Include area code)*: (712) 755-3841

14 CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A. Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
b. ☒ Exhibit B. Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
d. ☒ Exhibit D. Additional Description of Variety.
e. ☒ Exhibit E. Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)* ☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☐ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18 DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ Yes *(If "Yes," give date)*
☒ No

19 HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
France - 1985 (sold in a hybrid combination and not as an inbred)
U.S.A. - no
☒ Yes *(If "Yes," give names of countries and dates)*
☐ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
Jerry F. Strissel
DATE: 12/12/86

SIGNATURE OF APPLICANT
DATE

1

FORM WA-470 (7-84) (Edition of 3-84 is obsolete.)

Exhibit A. Origin and Breeding History of the Variety. 8700031

(1) Genealogy and (2) subsequent stages of selection and multiplication:

The origin of the variety Lp5 is described as follows:

First Generation:

GLAMOS (Yugoslavian open-pollinated variety) was mated to B73Ht.

Second Generation:

(GLAMOS x B73Ht) was backcrossed to B73Ht.

Third Generation:

The third generation consisted of a block of 1200 BC_1 [(GLAMOS x B73)B73 plants of which 50 were selfed and all selected seed bulked.

Fourth Generation:

A sample of 1200 BC_1S_1 plants [(GLAMOS x B73)B73 ♀] were grown and 50 plants were selected and selfed. The ears were bulk harvested.

Fifth Generation:

A random sample of 1200 BC_1S_2 plants was grown and 50 plants were selected for superior agronomic characters. The ears of these 50 selected plants were selfed and individually harvested.

Sixth Generation:

The 50 BC_1S_3 selections were planted ear to row. These 50 ear-rows were selfed and crossed to a common tester (Mo17).

Seventh Generation:

The 50 BC_1S_3 testcross entries were evaluated in replicated yield trials and the corresponding BC_1S_4 experimental inbreds were selfed in the nursery. Based on yield results, 20 experimental inbreds were selected.

Eighth Generation:

The 20 BC_1S_4 testcross entries were evaluated in replicated yield trials and the corresponding BC_1S_5 experimental inbreds were selfed in the nursery. Based on yield results, 8 experimental inbreds were selected.

Ninth Generation:

The 8 BC_1S_5 hybrid entries were evaluated in replicated yield trials and the corresponding BC_1S_6 experimental inbreds were selfed in the nursery and ear harvested. Based on yield results, 3 experimental inbreds were selected. One ear on a BC_1S_6 selfed plant was harvested for breeders seed.

Tenth Generation:

The 3 BC_1S_6 hybrid entries were evaluated in replicated yield trials and the corresponding BC_1S_7 inbreds were selfed in the nursery and ear harvested. Based on yield results, 1 experimental inbred was selected. The BC_1S_7 breeders seed (250 kernels from the breeders ear) was hand selfed. The 200 harvested ears, were bulked for a seed increase.

Eleventh Generation:

Isolation increase of Lp5. The bulked (BC_1S_7 derived) seed was planted in a increase isolation.

(3) No variants were observed in the final product.

(4) Evidence of uniformity and stability - several parameters such as plant height, ear height, anther color, flowering dates, and silk color has been measured for 2 years with no statistical difference within the line.

Revised Exhibit 14B

Lp5 is most similar to B73.

Although Lp5 is most similar to B73, there are some major differences between Lp5 and B73. We found one major difference between the two lines to be plant height; there is statistical evidence submitted on page 2 of Revised Exhibit 14B to show that we found Lp5 to be 47 cm. shorter than B73.

Another major difference between Lp5 and B73 is that Lp5 will flower approximately 7 days earlier than B73. For this PVP evaluation, we found that it took 57 days from emergence to 50% flower for Lp5, whereas, it took 64 days for B73.

Exhibit 14B
TRAIT MEASUREMENTS FOR PVP APPLICATIONS

8700031

Test: Lp5 vs. B73 test
Row/ent.:
Inbred:
Planting date:
Emerg. date:

Trait: plant heigh
Measure date:
Stage of dev.:
Sample size:
Sample unit:

Sam. No.	Measurement Lp5	B73
1	171	210
2	171	206
3	178	197
4	153	200
5	181	213
6	172	209
7	162	214
8	173	220
9	172	216
10	161	207
11	183	201
12	158	205
13	178	218
14	180	220
15	161	232
16	166	228
17	161	234
18	168	222
19	181	235
20	159	234
21	184	218
22	168	228
23	176	222
24	171	228
Σ	4088	5217
n	24	24
$\bar{x}$	170.3	217.4

Comments / calculati

$$t_{calc.} = \frac{x_1 - x_2}{\sqrt{\frac{s^2_1 - s^2_2}{2}}}$$

$$t_{calc.} = \frac{217.4 - 170.3}{\sqrt{\frac{77.2 + 130.8}{2}}} = 4$$

$t_{,n} = t.05,46 = 2.28$

The difference in plant height between Lp5 and B73 is significantly different at the 5% leve because the probability of gett $|t| > 4.62$ is less than 5%.

5

FORM APPROVED. OMB NO. 40-R3:

FORM GR-470-28
(2-15-74)

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
GRAIN DIVISION
HYATTSVILLE, MARYLAND 20782

EXHIBIT
(Corn)

OBJECTIVE DESCRIPTION OF VARIETY
CORN (*ZEA MAYS*)

NAME OF APPLICANT(S)
Claeys-Luck

ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code)
Griffaton
BP1
49800 Andard, France

address all correspondence to
Wilson Hybrids, Inc.
Box 391 Harlan, IA 51537

FOR OFFICIAL USE ONLY

PVPO NUMBER 8700031

VARIETY NAME OR TEMPORARY DESIGNATION
Lp5

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

1. TYPE:

[2] 1 = SWEET 2 = DENT 3 = FLINT 4 = FLOUR 5 = POP 6 = ORNAMENTAL

2. REGION WHERE BEST ADAPTED IN THE U.S.A.:

[2] 1 = NORTHWEST 2 = NORTHCENTRAL 3 = NORTHEAST 4 = SOUTHEAST
5 = SOUTHCENTRAL 6 = SOUTHWEST 7 = MOST REGIONS

3. MATURITY (In Region of Best Adaptability):

(Under "omments" (pg. 3) state how heat units were calculated)

[5][7]	DAYS FROM EMERGENCE TO 50% OF PLANTS IN SILK	[1][1][5][7] HEAT UNITS
[ ][ ]	DAYS FROM 50% SILK TO OPTIMUM EDIBLE QUALITY	[ ][ ][ ][ ] HEAT UNITS
[5][7]	DAYS FROM 50% SILK TO HARVEST AT 25% KERNEL MOISTURE	[1][0][8][4] HEAT UNITS

4. PLANT:

[1][7][0] CM. HEIGHT (To tassel tip)

[ ][6][9] CM. EAR HEIGHT (To base of top e

[1][1] CM. LENGTH OF TOP EAR INTERNODE

Number of Tillers:

[1] 1 = NONE 2 = 1–2 3 = 2–3 4 = > 3

Number of Ears Per Stalk:

[2] 1 = SINGLE 2 = SLIGHT TWO-EAR TENDENCY
3 = STRONG TWO-EAR TENDENCY 4 = THREE-EAR TENDEN(

Cytoplasm Type:

[1] 1 = NORMAL 2 = "T" 3 = "S" 4 = "C" 5 = OTHER (Specify) _____

5. LEAF (Field Corn Inbred Examples Given):

Color:

[3] 1 = LIGHT GREEN (HY) 2 = MEDIUM GREEN (WF9) 3 = DARK GREEN (B14) 4 = VERY DARK GREEN (K1

Angle from Stalk (Upper half):

[2] 1 = < 30° 2 = 30–60° 3 = > 60°

Sheath Pubscence:

[3] 1 = LIGHT (W22) 2 = MEDIUM (WF9)
3 = HEAVY (OH26)

Marginal Waves:

[2] 1 = NONE (HY) 2 = FEW (WF9) 3 = MANY (OH7L)

Longitudinal Creases:

[2] 1 = ABSENT (OH51) 2 = FEW (OH56A)
3 = MANY (PA11)

Width:

[ ][9] CM. WIDEST POINT OF EAR NODE LEAF

Length:

[ ][7][4] CM. EAR NODE LEAF

[1][3] NUMBER OF LEAVES PER MATURE PLANT

6

8700031

6. TASSEL:

[ ][7] NUMBER OF LATERAL BRANCHES

Branch Angle from Central Spike:

[1] 1 = < 30° 2 = 30–40° 3 = > 45°

Peduncle Length:

[ ][4] CM FROM TOP LEAF TO BASAL BRANCH

Pollen Shed:

[2] 1 = LIGHT (WF9) 2 = MEDIUM 3 = HEAVY(KY21)

[1] Anther Color:
[5] Glume Color:
1 = YELLOW 2 = PINK 3 = RED 4 = PURPLE 5 = GREEN
6 = OTHER (Specify) _____

Pollen Restoration for Cytoplasms (0 = Not Tested, 1 = Partial, 2 = Good)

[0] "T" [0] "S" [0] "C" [ ] OTHER (Specify Cytoplasm and degrees of restoration) _____

7. EAR (Husked Ear Data Except When Stated Otherwise):

[1][4] CM LENGTH [4][8] MM. MID-POINT DIAMETER [138] GM. WEIGHT

Kernel Rows:

[2] 1 = INDISTINCT 2 = DISTINCT [1][8] NUMBER

[1] 1 = STRAIGHT 2 = SLIGHTLY CURVED 3 = SPIRAL

Silk Color (Exposed at Silking Stage):

[1] 1 = GREEN 2 = PINK 3 = SALMON 4 = RED

Husk Color:

[1] FRESH
[6] DRY
1 = LIGHT GREEN 2 = DARK GREEN 3 = PINK
4 = RED 5 = PURPLE 6 = BUFF

Husk Extention: (Harvest Stage)

[2] 1 = SHORT (Ears Exposed) 2 = MEDIUM (Barely Covering Ear)
3 = LONG (8–10CM Beyond Ear Tip)
4 = VERY LONG (> 10 CM)

Husk Leaf:

[2] 1 = SHORT (< 8 CM) 2 = MEDIUM (8–15 CM
3 = LONG (> 15 CM)

Shank:

[ ][7] CM LONG [4] NO. OF INTERNODES

Position at Dry Husk Stage:

[3] 1 = UPRIGHT 2 = HORIZONTAL 3 = PE

Taper:

[1] 1 = SLIGHT 2 = AVERAGE 3 = EXTREME

Drying Time (Unhusked Ear):

[2] 1 = SLOW 2 = AVERAGE 3 = FA

8. KERNEL (Dried):

Size (From Ear Mid-Point):

[1][1] MM LONG [ ][8] MM. WIDE [ ][4] MM. THICK

Shape Grade (% Rounds)

[2] 1 = < 20 2 = 20–40 3 = 40–60 4 = 60–80 5 = > 80

8. KERNEL (Dried):

8700031

[4] Pericarp Color: 1 = COLORLESS 2 = RED WHITE 3 = TAN 4 = BRONZE 5 = BROWN 6 = LIGHT RED 7 = CHERRY RED 8 = VARIEGATED (Describe) _____

[1] Aleurone Color: 1 = HOMOZYGOUS 2 = SEGREGATING (Describe) _____

[1] 1 = WHITE 2 = PINK 3 = TAN 4 = BROWN 5 = BRONZE 7 = PURPLE 8 = PALE PURPLE 9 = VARIEGATED (Describe) _____

[3] Endosperm Color: 1 = WHITE 2 = PALE YELLOW 3 = YELLOW 4 = PINK-ORANGE 5 = WHITE

Endosperm Type:

[3] 1 = SWEET (su1) 2 = EXTRA SWEET (sh2) 3 = NORMAL STARCH 4 = HIGH AMYLOSE STARC 5 = WAXY STARCH 6 = HIGH PROTEIN 7 = HIGH LYSINE 8 = OTHER (Specify) _____

[2][8] GM. WEIGHT /100 SEEDS (Unsized Sample)

9. COB:

[3][1] MM. DIAMETER AT MID-POINT

Strength:

[2] 1 = WEAK 2 = STRONG

Color:

[3] 1 = WHITE 2 = PINK 3 = RED 4 = BROWN 5 = VARIEGATED 6 OTHER (Specify)_____

10. DISEASE RESISTANCE (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[0] STALK ROT (Diplodia)	[0] STALK ROT (Fusarium)	[0] STALK ROT (Gibberella)
[0] NORTHERN LEAF BLIGHT	[0] SOUTHERN LEAF BLIGHT	[1] SMUT
[0] SOUTHERN RUST	[0] CORN SMUT	[0] BACTERIAL WILT
[0] BACTERIAL LEAF BLIGHT	[0] MAIZE DWARF MOSAIC	[0] STUNT
[0] OTHER (Specify)		

11. INSECT RESISTANCT (0 = Not Tested, 1 = Susceptible, 2 = Resistant):

[1] CORNBORER	[0] EARWORM	[0] SAPBEETLE	[0] APHID
[0] ROOTWORM (Northern)	[0] ROOTWORM (Western)		
[0] ROOTWORM (Southern)	[0] OTHER (Specify) _____		

12. VARIETIES MOST CLOSELY RESEMBLING THAT SUBMITTED FOR THE CHARACTERS GIVEN:

CHARACTER	VARIETY	CHARACTER	VARIETY
Maturity	A632	Kernel Type	B73
Plant Type	B73	Quality (Edible)	
Ear Type	B73	Usage	Hybrid seed production

REFERENCES:

U.S. Department Agriculture. Yearbook 1937.

Corn: Culture, Processing, Products. 1970 Avi Publishing Company, Westport, Connecticut. (Numerous (Authors)

Emerson, R.A., G.W. Beadle, and A.C. Fraser. A Summary of Linkage Studies in Maize.Cornell A.E.S., Mem. 180. 1935.

The Mutants of Maize. 1968. Crop Science Society of America. Madison, Wisconsin.

Stringfield, G.H. Maize Inbred Lines of Ohio. Ohio A.E.S. Bul. 831. 1959.

Butler, D.R. 1954 — A System for the Classification of Corn Inbred Lines — PhD. Thesis, Ohio State University.

COMMENTS:

$$GDD = \left[\frac{(F^{O} \text{ max.} + F^{O} \text{ min.})}{2}\right] - 50^{O} F$$

8

Based on tassel branch angles measurements on 24 plants of each of Lp5 and B73, the tassel branch angle of Lp5 was found to measure 28° and the tassel branch angle of B73 was found to measure 19°. It appears that Lp5 has about a 10° more open type tassel.

Exhibit E. Statement of the Basis of Applicants' Ownership. 8700031

The development of Lp5 was developed entirely through the breeding program at Claeys-Luck. Future use of this material is assigned to Wilson Hybrids at Harlan, Iowa.